HW 3 – Function Call

EE 321 Microprocessors

Today’s code

- Consider L = {11, 12, 13, 14, 15};
- 1) Write SUB that does *300 = *200 – *201
- 2) Make the following code in ASM:

```
for(int i=0; i<5; i++)
   SUB(L[i],1);
```

SUB

- Functionality: *300 = *200 – *201
- *300 = *200 - *201
- *300 = *200 + 2’s complement(*201)
- *300 = *200 + (~(*201) + 1)
- *300 = *200 + ((*201 NAND *201) + 1)

PSEUDO CODE

- *300 = *200 - *201
- *300 = *200 + 2’s complement(*201)
- *300 = *200 + (~(*201) + 1)
- *300 = *200 + ((*201 NAND *201) + 1)
  - *201 = (*201 NAND *201) ≈ *201 = ~(*201)
  - *201 += 1 ≈ *201 = ((*201 NAND *201) + 1)
  - *300 = *200 + *201 ≈ *300 = *200 + ((*201 NAND *201) + 1)

ASM CODE

- NAND 201 201 *201 = (*201 NAND *201)
- ADDi 201 1 *201 += 1
- CP 300 200 *300 = 200
- ADD 300 201 *300 = *200 + ((*201 NAND *201) + 1)